

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 89-124
NPDES NO. CA 0028720

AMENDMENT OF WASTE DISCHARGE REQUIREMENTS, ORDER NO. 88-114

SIGNETICS CORPORATION
811 EAST ARQUES AVENUE FACILITY
SUNNYVALE
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. The Board issued Order No. 88-114 (NPDES No. CA 0028720) to Signetics Corporation (hereinafter called the discharger) on July 20, 1988. Order No. 88-114 regulates the discharge of extracted and treated groundwater and reject water from a reverse osmosis (RO) treatment plant to surface waters.
2. Reuse of water was not considered by the Board at the time Order No. 88-14 was adopted. The current permit regulates discharge to surface water from several Signetics facilities including 811 East Arques and 440 Wolf, these facilities are known collectively as the Signetics Corporation's Main Campus facility.

Under the current permit limitations reject water from the reverse osmosis treatment system (waste 001) is regulated only for chlorine content and total dissolved solids since it is obtained from the City of Sunnyvale public water supply prior to treatment. The effluent from the extracted groundwater treatment system (waste 002) is regulated to discharge water that meets drinking water standards for all pollutants that the extracted groundwater is known to contain. The pollutant of concern in the groundwater is Trichloroethylene (TCE).

Due to the continuing drought conditions in Santa Clara County, the high quality of the discharge waters, and San Francisco Bay Regional Water Quality Control Board resolution 88-160 it has become advisable to consider reuse of discharged water.

3. As required under Board Order 89-058, the current Site Cleanup Requirements for the Signetics facility, the discharger proposes to reuse approximately 100,000 gallons per day (GPD) of waste 002 for onsite irrigation purposes and as industrial process or make-up water. In addition, the discharger proposes to provide undetermined amounts of wastes 001 and waste 002 to construction companies for offsite roadwork and dust control. The volume discharge to each source (offsite reuse, onsite reuse, and discharge to surface waters) will be monitored separately. The Board staff finds that these proposals are appropriate reuses of extracted groundwater and, subject to the conditions of this Order and Order Number 88-114, does not threaten to adversely affect water quality.
4. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for the Guadalupe River, South San Francisco Bay, and contiguous surface and groundwater.
5. The existing and potential beneficial uses of the Sunnyvale East channel and Lower Calabazas Creek include:
 - a. Contact and Non-contact Water Recreation
 - b. Warm Fresh Water Habitat
 - c. Cold Fresh Water Habitat
 - d. Wildlife Habitat
 - e. Fish Migration
 - f. Fish Spawning
6. The existing and potential beneficial uses of South San Francisco Bay include:
 - a. Contact and Non-contact Water Recreation
 - b. Wildlife Habitat
 - c. Preservation of Rare and Endangered Species
 - d. Estuarine Habitat
 - e. Fish Spawning and Migration
 - f. Industrial Service Supply
 - g. Shellfishing
 - h. Navigation
 - i. Ocean Commercial and Sport Fishing
7. Effluent limitations of this Order (as shown in Table 1 below) are based on the Basin Plan, State and U.S. Environmental Protection Agency (EPA) plans and policies, best available treatment economically available (BATEA), and best engineering judgement. The conditions of this Order apply only to the reuse of water. Any discharge to surface waters will be subject to Order No. 88-114. Limits contained in this Order are based on the quality of the

reverse osmosis reject water and of extracted groundwater after treatment by airstripping and carbon adsorption.

TABLE 1 - DISCHARGE LIMITS

| <u>Waste 001</u> | |
|------------------------|--|
| Constituent | Instantaneous Maximum Limit (mg/l) |
| Total dissolved solids | 2000 |
| Chlorine | 0.0 |

| <u>Waste 002</u> | |
|------------------------|--|
| Constituent | Instantaneous Maximum Limit (μ g/l) |
| Trichlorofluoromethane | 5 |
| 1,1,1-trichloroethane | 5 |
| Tetrachloroethylene | 5 |
| Trichloroethylene | 5 |
| Ethylbenzene | 5 |
| Dichlorobenzene | 5 |
| 1,1 Dichloroethylene | 5 |
| Xylenes | 5 |

8. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's groundwater extraction and treatment system and associated operation, maintenance, and monitoring plan, as specified in Order Number 88-114, constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.
9. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California water Code.
10. The Board has notified the discharger and interested agencies and persons of its intent to issue Waste Discharge requirements for the discharge and has provided them an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

11. The Board, in a public meeting on July 19, 1989, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. AMENDMENT of Order No. 88-114

Order No. 88-114 shall be amended as follows:

1. For Finding 5., Wastes 001 and 002 discharge to Calabazas Creek and Sunnyvale East Channel may be reduced by an as yet undetermined amount. The maximum total discharge of 450,000 GPD as detailed in Finding 5. of Order 88-114, may still be allowed in times of temporary plant shutdown.
2. A Provision 8 shall be added which states: "All vehicles transporting or dispensing, treated, extracted groundwater or RO reject water from this site and all outlets that supply treated extracted groundwater or RO reject water shall be identified as non-potable, reclaimed waters."
3. A Provision 9 shall be added which states: "Groundwater reused at sites other than the discharger's Main Campus facility shall not be discharged to surface waters."
4. A Provision 10 shall be added which states "The Executive Officer may approve additional specific proposals for reuse, beyond the proposals for reuse at the discharger's Main Campus facility and the current proposals for offsite use, provided that:
 - a. The extracted groundwater supplied by the discharger shall meet the limitations contained in Discharge Limitation 4, as modified by this Order.
 - b. The discharger and/or the end user of the extracted groundwater shall submit a proposal acceptable to the Executive Officer containing specifics on the proposed reuses including, at a minimum the source(s) of the extracted groundwater, amounts, method of reuse, location of reuse, and control methods to prevent runoff.
 - c. The end user of reclaimed groundwater shall be responsible for assuring compliance with the specifics contained in a proposal, required by item b. above, for reuse and for any conditions the Executive Officer

shall impose as part of an approval of such proposal."

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 19, 1989.

A handwritten signature in black ink, appearing to read "Steve Ritchie", with a stylized, cursive script.

STEVEN R. RITCHIE
Executive Officer